

METHOD AND APPARATUS FOR LABELING AND ANALYZING CELLULAR COMPONENTS

Abstract of the Disclosure

5 A labeling method that labels an object or specific features of an object with
labeled probes that provide a multiplexed signal that can be analyzed by spectral
decomposition. This binary and higher encoding scheme can be employed to label
components of biological cells. In each encoding scheme, labeled probes that
selectively bind to a specific feature are required. The labeled probes include a
binding element that binds to the feature, and at least one signaling component that
10 generates a detectable signal, preferably a spectral signature. In one embodiment,
adding multiple fluorescent dye molecules to each binding element provides the
multiplexed signal. In another embodiment, adding only one signal compound to
each binding element provides the multiplexed signal, such that some of the binding
elements have a different signal compound added. The different signal compounds
15 provide the multiplexed signal.

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